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|--|-------------|----------------------|-----------------------------|------------------|
| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.         | CONFIRMATION NO. |
| 10/692,833   | 10/23/2003  | J. Rodney Walton     | 030060                      | 9224             |
| 23696  | 7590        | 01/30/2008           |                             |                  |
| QUALCOMM INCORPORATED<br>5775 MOREHOUSE DR.<br>SAN DIEGO, CA 92121 |             |                      | EXAMINER<br>NGUYEN, THUAN T |                  |
|  |             |                      | ART UNIT                    | PAPER NUMBER     |
|  |             |                      | 2618                        |                  |
|  |             |                      | NOTIFICATION DATE           | DELIVERY MODE    |
|  |             |                      | 01/30/2008                  | ELECTRONIC       |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

us-docketing@qualcomm.com  
kascanla@qualcomm.com  
nanm@qualcomm.com

|                              |                                      |                                      |  |
|------------------------------|--------------------------------------|--------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/692,833 | <b>Applicant(s)</b><br>WALTON ET AL. |  |
|                              | <b>Examiner</b><br>THUAN T. NGUYEN   | <b>Art Unit</b><br>2618              |  |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 19-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 19-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### *Remark*

1. Claims 1-18 have been cancelled, and claims 19-31 are pending for reconsideration.

### *Response to Arguments*

2. Applicant's arguments with respect to claims 19-31 have been considered but are moot in view of the new ground(s) of rejection.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

*(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.*

4. Claims 19-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bottomley (U.S. Patent No. 5,506,861) in view of Stopler et al. (U.S. Patent 6,920,194 B2).

Regarding claim 19, Bottomley teaches “a receiver unit in a wireless communication system, comprising: a signal detector operative to determine a metric for a data transmission hypothesized to have been received; and a comparator operative to receive the metric and the threshold and provide an output indicating whether or not the data transmission is deemed to have been received” (Fig. 1, col. 3/lines 44-62; col. 8/lines 32-49; and col. 9/lines 12-33).

Bottomley does not clearly teach to further include “a threshold computation unit operative to determine a threshold for the hypothesized data transmission”; however, this technique is taught by Stopler as Stopler, in an environment of detecting, timing and correcting

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impulse noise, teaches to use a window threshold impulse scheme in detecting (hypothesized) impulses of signal energy of received signals in data transmission (see Figs. 2-4, and col. 5/lines 54-67). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Bottomley's system with the disclosed technique in order to further providing "a threshold computation unit operative to determine a threshold for the hypothesized data transmission" as desired.

For claim 20, Bottomley teaches "wherein the threshold is determined based on received pilot symbols for the hypothesized data transmission" (col. 7/lines 44-53).

For claim 21, Bottomley teaches "wherein the threshold is further determined based on received data symbols for the hypothesized data transmission" (col. 3/lines 7-25).

For claim 22, Bottomley teaches "wherein the metric relates to signal energy of the hypothesized data transmission" (col. 7/line 54 to col. 8/line 49 & col. 13/lines 20-28).

For claim 23, Bottomley teaches "wherein the signal detector is operative to determine the metric based on a plurality of received signals for a plurality of antennas, and wherein the threshold computation unit is operative to determine the threshold based on the plurality of received signals" (col. 14/line 57 to col. 15/line 56 for a plurality of correlations for a plurality of receivers are addressed).

As for claims 24-27, these claims for "a method of detecting data transmissions in a wireless multiple-access communication system, comprising: first processing received data symbols for a data transmission hypothesized to have been received to provide remodulated symbols that are estimates of transmitted data symbols; and second processing the received data symbols and the remodulated symbols to provide a detector output that indicates whether or not

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the data transmission is deemed to have been received” with similar features are rejected for the reasons given in the scope of claims 19-23 as disclosed above.

As for claims 28-31, these claims for methods and “an apparatus in a wireless multiple-access communication system, comprising: means for processing received data symbols for a data transmission hypothesized to have been received to provide remodulated symbols that are estimates of transmitted data symbols; and means for processing the received data symbols and the remodulated symbols to provide a detector output that indicates whether or not the data transmission is deemed to have been received” as well as “an apparatus in a wireless multiple-access communication system, comprising: means for determining a metric for a data transmission hypothesized to have been received; means for determining a threshold for the hypothesized data transmission based on samples received for the hypothesized data transmission; and means for comparing the metric against the threshold to provide an output indicating whether or not the data transmission is deemed to have been received” are rejected for the reasons given in the scope of claims 19-23. Bottomley does not teach to further include “a threshold computation unit operative to determine a threshold for the hypothesized data transmission”; however, this technique is taught by Stopler as Stopler teaches to use a window threshold impulse scheme in detecting (hypothesized) impulses of signal energy of received signals in data transmission (see Figs. 2-4, and col. 5/lines 54-67). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Bottomley’s system with the disclosed technique in order to further providing “a threshold computation unit operative to determine a threshold for the hypothesized data transmission” as desired.

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***Conclusion***

**5. Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to the New Central Fax number:**

(571) 273-8300, (for Technology Center 2600 only)

Hand deliveries must be made to Customer Service Window,  
Randolph Building, 401 Dulany Street, Alexandria, VA 22314.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony Thuan Nguyen whose telephone number is (571) 272-7895. The examiner can normally be reached on Monday-Friday from 10:00 AM to 7:00 PM.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tony T. Nguyen  
Primary Examiner  
Art Unit 2618